

Southern Adventist University KnowledgeExchange@Southern

Education Undergraduate Research

School of Education and Psychology

Fall 2014

Fit to Focus: Measuring the Effects of Activity on Behavior Management

Rochelle Daughma

Southern Adventist University, rdaughma@southern.edu

Follow this and additional works at: https://knowledge.e.southern.edu/undergrad_ed

Recommended Citation

Daughma, Rochelle, "Fit to Focus: Measuring the Effects of Activity on Behavior Management" (2014). *Education Undergraduate Research*. 3.

https://knowledge.e.southern.edu/undergrad_ed/3

This Article is brought to you for free and open access by the School of Education and Psychology at KnowledgeExchange@Southern. It has been accepted for inclusion in Education Undergraduate Research by an authorized administrator of KnowledgeExchange@Southern. For more information, please contact jspears@southern.edu.

FIT TO FOCUS

Fit to Focus: Measuring the Effects of Physical Activity on Behavior Management

Rochelle Daughma

Southern Adventist University

November 2014

INTRODUCTION

In the classroom teachers are in charge of classroom management. It is most important that they have techniques to decrease classroom disruptions, outbursts or negative behaviors. Educators have wondered what tools can best help with classroom management. It seems as though teachers are willing to try several techniques to help in classroom management. As students you may recall some of the techniques used by previous teachers. There were techniques such as call and response, hands in the air, standing up, heads down, the quiet game, and the list goes on. Suggestions have been made that physical activity can impact the classroom positively. There is much that can be said about the impact physical activity has on the human body. Researchers have observed many different classrooms and were curious to find out the role physical activity has in classroom management. This study aims to answer: does physical activity aid in classroom management?

It is important that physical activity is defined. According to the Center of Disease Control and Prevention (CDC), children between 6-18 should do one (1) hour of physical activity a day.

LITERATURE REVIEW

There has been much discussion about classroom management over the years. According to Murline Verstraete (2006), a substantial portion of young people have lower [Physical Activity] levels than recommended for good health” (415). This is unfortunate news as the state of our children’s health is very important. Children spend many hours of their day at school and if they are not getting sufficient exercise they are not function at the best of their abilities. Verstraete, an associate professor of special education and counseling shares that after a teacher

“started incorporating classroom transition exercises, lesson energizers, and structured movement... her students, not just those with ADHD, are focusing better and paying closer attention in class” (16). This supports our hypotheses about the importance of the physical education and the positive benefit it has on our students. It has been noted that exercise “can increase activity in the parts of the brain involved in memory, attention, spatial perception, language, and emotion” (17).

It was hard for researchers to locate information on their specific hypothesis. However, there was something to say on the implementation of fitness breaks in the classroom. The study by Wadsworth focused specifically on preschools but the findings still have benefit. One point that made was that “as a teacher, it is important to actively in the physical activity breaks” (Wadsworth 393). This study showed that “planned physical activity breaks contributed significantly to time spent in MVPA” (392). Wadsworth defines MVPA as “physical activity that requires an increase in respiration and heart rate equivalent to a brisk walk” (391). Other studies proved that “exercise activities throughout the day can improve academic performance and reduce disruptive classroom and social problem behaviors” (Murline 17).

As there was more literature supporting the hypotheses of the researchers it seemed as though there could be no disputing the positive effects of exercise.

METHODOLOGY

The researchers chose an elementary school in the southern region of the United States. The school is a private institution located in the eastern region of Tennessee in the heart of the “Bible belt.” We chose a 4th grade classroom as they were headed into the second half of the second quarter of their academic year. The class was made up of 18 students; 10 girls (55%) and

8 boys (45%). The ethnic diversity of the class is as follows: 3 Black (17%), 15 White/European Decent (83%).

Each student was sent home with a consent form (Appendix A) and an Assent form (Appendix B) that was to be signed and returned to the teacher. These forms explained in detail the purpose of the study. Unfortunately, eight students (42.11%) of students did not get permission or give assent to participate in the study. The researchers' results did not include those students.

The researchers observed the class everyday between the hours of 8 am and 10 am. The research lasted three weeks. The first week was simply observation and the last two we implemented the added physical activity. The physical activity was not strenuous due to the evident limitations of a classroom. One exercise required the students to imitate the movements of animals that they know. One student said the activity "makes me feel like a 2nd grader".

The exercises lasted no more than ten (10) minutes. The exercises were videos that were found that included basic aspects of physical activity. Some studies call these kinds of physical activities as "Energizers" (Murline 19). Due to scheduling the students had Physical Education twice a week. Therefore, the researchers just observed the class after their P.E period instead of adding more physical activity. This part of the research lasted two weeks.

The researchers had as little interaction with the students as possible. Most of the communication happened between the researchers and the teacher. There was both electronic and verbal communication throughout the process of the experiment.

While observing the class the researchers took note of the teacher's classroom management skills. The teacher's room was very comfortable, suitable for learning but fostered

creativity and individuality. The students had the opportunity to do their work in other areas in the room depending on the assignment. The classroom atmosphere was relaxed and inviting.

RESULTS

Observations prior to the implementation showed that the teacher spent several minutes quieting the students, doing call and response techniques, calling students out by name or simply waiting for the class to be quiet. After the implementation of the physical activity there was a decrease of this time by half. During a debrief with the cooperating teacher the researchers found out that the teacher agreed that the students did benefit from the physical exercise even for a short time after the activity.

After three weeks of being in the classroom the experiment was over. At the end of the experiment the students were given a questionnaire to answer. This questionnaire was answered in the absence of the researchers. There were several things that were learned in within the three weeks.

The notes of the observers showed that after physical activity the students were less fidgety and more focus. This allowed for the teacher to give instructions without have to use her call and answer method. During the initial week of observation without the exercise the teacher spent more time telling her students to be quiet.

There was a questionnaire (Appendix C) given at the end of the three weeks. When students were asked if physical activity benefited them: 23% felt that it helped , 44% felt that it did not help, and 33% were unsure. It is noted that 22% thought that physical activity positively affected behavior, 39% thought that it did not affect their behavior, and 39% unsure if affected their behavior.

It was interesting to watch the changes of the students with the implemented exercise. One of the questions that was posed asked, “What do you dislike, if anything, about doing the daily physical activity?” A male fourth grade student responded, “I don’t like that we got hot and sweaty before class and we have to get on the floor.” Some students did complain after doing the workouts for a couple days.

CONCLUSION

This experiment was very beneficial to the researchers because they are now able to implement physical exercise in their future classroom. One must admit that no research is perfect. It is important that strengths and some of the limitations of the experiment.

There were strengths within this experiment. First I believe that the topic was very interesting. The researchers have had questions about the connections between physical activity and student behavior in the classroom. This study has shown the connections that were sought after. Secondly, this research team was very flexible. The researchers were able to adjust their schedules after the research had begun. If there had been no flexibility their study may have not been completed. Studies parallel with the findings of the researches and further states, “physical activity did not compromise the academic achievements of [the students]” (Ahamed 376). There were improvements “in spite of a 13% reduction in academic teaching time for students” (Dwyer 226). There is still a lot of research needed on the topic as the present project has led to a very important yet dense subject matter.

There were several limitations that we faced in our research. The first limitation was that we have not done in-depth research like this before. There were a lot of variables to consider. A second limitation is that we faced was that our time was limited. Due to scheduling issues we

were only able to observe during a limited timeframe. I believe that if we had more time our result would have been more specific. A third limitation is that we only observed and implemented the exercise in one class. In hindsight it would have been more beneficial if we had observed more than one class. This would have given use more universal results. A fourth limitation is that the class that we watched had great behavior management skills. Being that is so far into the school year it the teacher, as well as the students have an understanding of one another. When talking to the teacher after the experiment she expressed that “the students know their parameters.” During the observation times it was realized that students were not as confined as students their ages are typically confined to their seat. It is important that it is acknowledged that the students were not sitting on the typical hard chairs found in many classrooms. This classroom had exercise balls as seats.

The findings of this research greatly support the original hypothesis of the researchers. Exercise does positively benefit students and teachers alike. No matter the label placed on the physical activity it is positive affects span more than the scholastic aspect of a students’ academic career. With this knowledge it is imperative that research continue to examine the many layers are questions still unanswered. This information will help our students and our teachers. This research will be revolutionary as it strives to change how we educate our students.

References

- Ahamed, Y., Macdonald, H., Reed, K., Naylor, P., Liu-Ambrose, T., & McKay, H. (2007). School-Based Physical Activity Does Not Compromise Children's Academic Performance. *Medicine & Science In Sports & Exercise*, 39(2), 371-376.
doi:10.1249/01.niss.0000241654.45500.8e
- Dwyer, T., Sallis, J.F., Blizzard, L., Lazaurs, R. & Dean, K. (2001), Relation of Academic Performance to Physical Activity and Fitness in Children. *Pediatric Exercise Science*, (13), 225-237
- Jarrett, O. S., Maxwell, D. M., Dickerson, C., Hoge, P., Davies, G., & Yetley, A. (1998). Impact of Recess on Classroom Behavior: Group Effects and Individual Differences. *The Journal of Educational Research*, (2). 121.
- Mahar, M., Murphy, S., Rowe, D., Golden, J., Shields, A., & Raedeke, T. (2006, January 1). Effects of a Classroom-Based Program on Physical Activity and On-Task Behavior. Retrieved November 9, 2014, from <http://www.medscape.com/viewarticle/551022>
- Mulrine, C. F., Prater, M. A., & Jenkins, A. (May/ June 2008). *The Active Classroom*. Teaching Exceptional Children, 40(5), 16-22.
- Pellegrini, A. D., & Smith, P. K. (1993). School Recess: Implications for Education and Development. *Review of Educational Research*, (1). 51.
- Verstraete, S.J.M, Cardon G.M., DeClercq D.L.R., De Bourdeauduij, I. (2006) Increasing Children's Physical Activity Levels During Recess Periods in Elementary Schools: the Effects of Providing Game Equipment. *The Author* 4(16), 415-419

Appendix A

[Informed Consent Form for parents of adolescent girls and boys participating in the research titled, “Fit to Focus: Measuring the Effects of Physical Activity on Behavior Management”]

[Kaylee Vaughan and Rochelle Daughma]

[Southern Adventist University]

[“Fit to Focus: Measuring the Effects of Physical Activity on Behavior Management”]

This Informed Consent Form has two parts:

- **Information Sheet (to share information about the study with you)**
- **Certificate of Consent (for signatures if you agree that your child may participate)**

You will be given a copy of the full Informed Consent Form

Part I: Information Sheet

Introduction

Our names are Kaylee Vaughan and Rochelle Daughma, and we are students at Southern Adventist University in Collegedale, Tennessee. We are doing some research which might help your school do more to help adolescents become healthier and more focused. In our research we will observe in the classroom, implement short physical activities, and talk to the students, both girls and boys, and ask them a number of questions. Whenever researchers study children, we talk to the parents and ask them for their permission. After you have heard more about the study, and if you agree, then the next thing we will do is ask your daughter/son for their agreement as well. Both of you have to agree independently before we can begin.

You do not have to decide today whether or not you agree to have your child participate in this research. Before you decide, you can talk to anyone you feel comfortable with.

There may be some things that you do not understand. Please ask us to stop as we go through the information and I will take time to explain. If you have questions later, you can ask them of us or of your child’s teacher.

Purpose

In this study we will implement physical activity within your child’s classroom to see if it has any effect on their behavior, focus, and academic achievements.

Type of Research Intervention

Observation, questionnaires, and/or interviews.

Selection of Participants

We would like to ask your daughter/son to participate in this research study because she/he is an elementary school student and lives in this region.

Voluntary Participation

You do not have to agree that your daughter/son participates in this study. We know that the decision can be difficult when it involves your children. You can ask as many questions as you like and we take the time to answer them. You don't have to decide today. You can think about it and tell me what you decide later.

Procedure**1) Observation:**

For the first part of the study, we will simply be observing your child's classroom as a whole to see how they behave in a classroom setting.

2) The following applies only to interviews:

Your daughter/son will participate in interviews with Kaylee Vaughan and/or Rochelle Daughma. If your daughter/son does not wish to answer any of the questions during the interview, she/he may say so and the interviewer will move on to the next question. The interview will take place in A.W. Spalding Elementary. The information recorded is confidential, and no one else except Kaylee Vaughan or Rochelle Daughma will have access to the information documented during the interview.

3) The following applies only to questionnaire surveys:

Your daughter/son will fill out a questionnaire. **OR** The questionnaire can be read aloud and she/he can give me the answer which she/he wants us to write. If your daughter/son does not wish to answer some of the questions included in the questionnaire, she/he may skip them and move on to the next question. The information recorded is confidential, and no one else except Kaylee Vaughan and Rochelle Daughma will have access to her/his questionnaire.

The types of questions likely to be asked will be about her/his feelings of the implemented physical activity on their behavior and focus.

Duration

The entire course of the study will take a month at most. We are asking your child to participate in about ten minutes of physical activity each day for approximately two weeks and in two interviews which will take no more than 30 minutes of her/his time. We will do this inside of school hours. There may also be a questionnaire that we will either provide to your child or which we will do together with her/him. This also takes no more than 30 minutes.

Risks and Discomforts

You must know that your daughter/son does not have to answer any question or take part in the activity/interview/survey if he/she doesn't wish to do so, and that is fine. He/she does not have to give us any reason for not responding to any question, or for refusing to take part in the interview.

Your daughter/son may choose to tell you about the interview and the questionnaire but she/he does not have to do this. We will not be sharing with you either the questions we ask or the responses given to us by your child.

Benefits

There may be no immediate benefits, but it is our hope that your child will become, if only slightly, more physically fit, and obtain increased focus and academic achievement.

Reimbursements

Your daughter/son will not be provided with any payment to take part in the research.

Confidentiality:

We will not be sharing information about your son or daughter outside of the research team. The information that we collect from this research project will be kept confidential. Information about your child that will be collected from the research will be put away and no-one but the researchers will be able to see it. Any information about your child will have a number on it instead of his/her name. Only the researchers will know what his/her number is and we will lock that information up with a lock and key. It will not be shared with or given to anyone except Kaylee Vaughan, Rochelle Daughma, and Mrs. Musick.

Sharing of Research Findings

At the end of the study, we will be sharing what we have learnt with the participants and with the community. We will do this by meeting first with the participants and then with the larger community. Nothing that your child will tell us today will be shared with anybody outside the research team, and nothing will be attributed to him/her by name. A written report will also be given to the participants which they can share with their families. We will also publish the results in order that other interested people may learn from our research.

Right to refuse or withdraw

You may choose not to have your child participate in this study and your child does not have to take part in this research if she/he does not wish to do so. Your child may stop participating in the discussion/interview at any time that you or she/he wishes.

Who to Contact

If you have any questions you may ask them now or later, even after the study has started. If you wish to ask questions later, you may contact any of the following: Kaylee Vaughan, 423-310-1009, kayleevaughan@southern.edu or Rochelle Daughma, 914-426-1134, rdaughma@southern.edu

This proposal has been reviewed and approved by Southern Adventist University IRB, which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find out more about the IRB, contact Bonnie Eder at beder@southern.edu.

PART II: Certificate of Consent

Certificate of Consent

I have been asked to give consent for my daughter/son to participate in this research study which will involve her/him completing daily physical activity for the duration of the study, and interviews or questionnaires. I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily for my child to participate as a participant in this study.

Print Name of Parent or Guardian _____

Signature of Parent of Guardian _____

Date _____

Day/month/year

If illiterate

A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumb print as well.

I have witnessed the accurate reading of the consent form to the parent of the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of witness _____

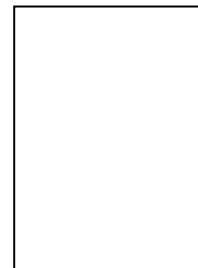
AND Thumb print of

participant

Signature of witness _____

Date _____

Day/month/year

**Statement by the researcher/person taking consent**

I have accurately read out the information sheet to the parent of the potential participant, and to the best of my ability made sure that the person understands that the following will be done:

- 1.**
- 2.**
- 3.**

I confirm that the parent was given an opportunity to ask questions about the study, and all the questions asked by him/her have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this Informed Consent Form has been provided to the parent or guardian of the participant _____

Print Name of Researcher/person taking the consent_____

An Informed Assent Form will _____ OR will not _____ be completed.

Appendix B

RESEARCH ASSENT FORM

Research Title: “Fit to Focus: Measuring the Effects of Physical Activity on Behavior Management”

Principal Investigators: Kaylee Vaughan, 423-310-1009, and Rochelle Daughma, 914-426-1134

We want to tell you about a research study we are doing. A research study is a way to learn information about something. We would like to find out more about the effect of activity on focus, behavior, and academic success of school children. You are being asked to join the study because you are an elementary student in the area.

If you agree to join this study, you will be asked to do no longer than ten minutes of daily activity with your classmates for two weeks at most and answer a few short questions throughout the study.

The only possible risks associated with this study are injury due to the physical activities. The activities will not be strenuous or time consuming by any means.

We do not know if you will be helped by being in this study. We may learn something that will help other children with their behavior, focus, and academic success someday.

You do not have to join this study. It is up to you. You can say okay now, and you can change your mind later. All you have to do is tell us. No one will be mad at you if you change your mind.

Anything we learn about you from this study will be kept as secret as possible.

Before you say yes to be in this study, we will answer any questions you have.

If you want to be in this study, please sign your name. You will get a copy of this form to keep for yourself.

(Sign your name here)

(Date)

Appendix C

End Interview Questionnaire

1. Do you feel that doing the daily physical activity has helped you become more focused?

Yes

No

2. Do you feel that doing the daily physical activity has helped you do better in your school work?

Yes

No

3. Do you feel that doing the daily physical activity has helped you behave better in the classroom?

Yes

No

4. What else, if anything, do you like about doing the physical activity?

5. What do you dislike, if anything, about doing the daily physical activity?